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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/548,913	04/13/2000	Brian Mitchell Bass	RAL920000018US1	7379

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EXAMINER
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ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/548,913	BASS ET AL.
	Examiner	**Art Unit**	
	Lewis A. Bullock, Jr.	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 November 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-3 and 5-13</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3 and 5-13</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-3 and 5-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The cited claims do not produce a useful, concrete, and tangible result. Claims 1 and 9 detail a determining mechanism for placing a queue in a calendar. Scheduling in and of itself does not produce a useful, concrete, and tangible result. What one uses such scheduling to achieve would be considered a useful, concrete, and tangible result in most cases. For instance a step of servicing said source by causing a frame to be transmitted from said source when the calendar is at the third location would constitute a useful, concrete, and tangible result. Claims 2, 3 and 5-8 detail a calculating step for assigning a calendar position. The cited claims are rejected based upon the same rational provided above and can be alleviate based upon the same type of language.

Claim Rejections - 35 USC § 112

2.   Claims 1 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The cited claims detail a limitation of placing

the source at a third location regardless of which position a time pointer of the time-based calendar is currently pointing to. The examiner has found no support in the specification for such a limitation. The remarks in the amendment provides no indication of where in the specification such language can be found. The examiner has reviewed Applicants specification and has found that in relation to the time-based calendar, the current time is part of any calculation or evaluation of placing entries in the calendar. See page 20, lines 8-15; page 22, lines 4-21, page 23, lines 1-4 and page 24, lines 4-21. Event the determining the dot E field uses an analysis of the current time. In regards to the time-independent calendar the current time appears to not be used. So it would seem that the current time is not involve with the time-independent calendar and not the time based calendar as alluded to in the claims..

3.   Claims 1-3 and 5-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. All of the cited claims are for periodically moving information units from a plurality of sources to an output destination based on information stored about each of the plurality of sources or servicing data flows placed into a queue for service in turn. However, the cited steps are missing essential elements to achieve this goal. The system never moves information units from a plurality of sources and the method does not have a step of servicing the data flows.

4.   Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The cited claim language details a step of considering the

aging of the queue to determine whether stored parameters remain valid. There is a

gap between the language disclosed in claim 2 and the language of claim 3. Claim 3

appears to be the validation of a queue, which has no relation at all to the processing of

claim 2. It appears that the limitations of claim 3 and not even processed in the same

embodiment as that of claim 2. Claim 2 is detailing the scheduling of a queue to a

calendar location. There are no recitations of stored parameters or validity checks in

regards to claim 2. The examiner has no idea how claim 3 relates to the method recited

in claim 2.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 2, 7 and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by

NAVEN (U.S. Patent 6,810,043).

As to claim 2, NAVEN teaches a method of servicing data flows (cell

transmissions) placed into a queue (virtual connection queues) for service in turn

comprising: calculating an initial new position in a calendar for a queue containing a

serviced flow (next scheduled time (NST) (col. 10, lines 20-31); determining whether the

queue had a previous position in the calendar (via if there is a calculated NST for the

queue); if the queue had a previous position in the calendar, determining whether a new

position that would be assigned to the queue is earlier than the initial new position

previously calculated in the calendar; if the new position that would be assigned is

earlier than the previously-calculated initial new position, assigning the previously-

calculated initial new position to the queue (via determining that the current time is

before the scheduled time such that the queue is assigned to executed at the scheduled

time); and if the previously calculated initial new position is not earlier than the new

position that would be assigned, assigning the new position that would be assigned (via

if the calculated NST for the VC has passed the current time, scheduling the execution

of the VC at the current time +1) (col. 9, lines 10-64; col. 10, lines 1-65; col. 8, lines 56-

67; col. 5, lines 1-29; See also column 3, line 41 – col. 4, line 3; col. 7, lines 1-26; col.

11, lines 12-25; col. 14, lines 4-29; col. 6, lines 9-27).

As to claim 7, NAVEN teaches attaching the queue to the selected location (via

scheduling the queue at the next scheduled time) (col. 9, lines 10-64; col. 10, lines 1-65;

col. 8, lines 56-67; col. 5, lines 1-29; See also column 3, line 41 – col. 4, line 3; col. 7,

lines 1-26; col. 11, lines 12-25; col. 14, lines 4-29; col. 6, lines 9-27).

As to claim 9, NAVEN teaches a system comprising: a time-based calendar

which handles a first set of a plurality of information units based on the information

stored about a plurality of sources (master / slave calendars) (via a calendar control

circuitry scheduling on a master/slave calendars for a plurality of virtual connections);

and a mechanism for determining when a flow (cell transmission) is added to the source

(virtual connection queue) whether that source was at a first location in the time-based

calendar (current location / T pointer) and then (1) preventing the source from being

placed at a second location that is ahead of a previously–calculated location in the time-

based calendar (via calculating a NST for the VC and scheduling the execution of the

VC at the NST unless the NST has passed in which case it is placed at the current time

+1) and (2) placing the source at a third location that is one of the previously-calculated

location or a next location that is after the previously-calculated location within the time-

based calendar (col. 9, lines 10-64; col. 10, lines 1-65; col. 8, lines 56-67; col. 5, lines 1-

29).

As to claim 10, NAVEN teaches a method comprising: providing at least one

time based calendar (master calendar / slave calendar) having a plurality of locations

and a time pointer (T pointer) moving relative to the plurality of locations as a result of

scheduler ticks, each tick measured as a predetermined ratio of elapse time per pre-set

number of bytes (via the timepointer is incremented in every cell period and a cell period

relates to transfer bytes over a virtual connection); attaching a queue (virtual connection

queue) to a first calendar location whereat the time pointer is pointing (current time);

servicing the queue by causing a frame to be transmitted from the queue whereupon

the queue goes empty (via processing an entry of the queue for transmission);

identifying a second location whereat the queue would have been re-attached had it not

gone empty (via calculating the NST for the queue); examining pre-defined

characteristics associated with the queue to determine occupancy frames within the

queue (determining whether the queue is empty); if examination indicates the queue is

not empty, identifying a current location whereat the time pointer points (identify current

time); correlating the current location of the time pointer and the second location

(determining whether the NST has exceeded the current time); and selecting allocation

which is not earlier than the second location to re-attach the queue, wherein when the

current location of the time pointer is not earlier than the second location, the queue is

reattached at the current location of the time pointer (via if the NST has exceeded the

current time then reschedule the queue at the current time + 1) (col. 9, lines 10-64; col.

10, lines 1-65; col. 8, lines 56-67; col. 5, lines 1-29; See also column 3, line 41 – col. 4,

line 3; col. 7, lines 1-26; col. 11, lines 12-25; col. 14, lines 4-29; col. 6, lines 9-27).

As to claim 11, NAVEN teaches the not emptied queue is attached at the

selected location (via attaching a queue at a location based on the current time or NST)

(col. 9, lines 10-64; col. 10, lines 1-65; col. 8, lines 56-67; col. 5, lines 1-29; See also

column 3, line 41 – col. 4, line 3; col. 7, lines 1-26; col. 11, lines 12-25; col. 14, lines 4-

29; col. 6, lines 9-27).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 3, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over NAVEN (U.S. Patent 6,810,043).

As to claim 3, NAVEN teaches each queue indicates whether it is a valid entry in

the calendar for execution by storing a value in a bit (col. 8, lines 16-32) such that

examination of storage locations that do not contain any VC entries is avoided (col. 8,

lines 29-32). Therefore, it would be obvious to one of ordinary skill in the art based on

the teachings of NAVEN that the age of the queue, i.e. the amount of entries it has,

would have to be considered in order to determine whether the queue is a valid entry on

the calendar for servicing.

As to claims 12 and 13, NAVEN teaches the queue is attached by writing the I.D.

of the queue (VC control block that is associated with the virtual connection and its

queue) in a linked list located at each location (col. 7, lines 1-42). However, NAVEN

does not teach that the linked list is a stack. Official Notice is taken in that it is well

known in the art that a linked list is a stack and can function in a LIFO format and

therefore would be obvious to one of ordinary skill in the art in relation to the teachings

of NAVEN in order to organizing the execution of the virtual connections at a calendar

location.

9.   Claims 1, 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Applicant's Admitted Prior Art (APA) in view of NAVEN (U.S. Patent 6,810,043).

As to claim 1, APA teaches a system comprising a time-independent calendar

which handles scheduling of a set of information units wherein the time-independent

calendar handling the scheduling of the set based on information stored about the

plurality of sources and which places each source into a calendar location and moves

the source to a different place in the calendar of lower priority relative to a current

calendar location of the source after servicing the source (via the system having a

weighted priority technique or priority technique of servicing queues) (pg. 7, lines 3-19).

However, APA does not teach a time-based calendar and mechanism for using the time

based calendar.

NAVEN teaches a system comprising: a time-based calendar which handles a

first set of a plurality of information units based on the information stored about a

plurality of sources (master / slave calendars) (via a calendar control circuitry

scheduling on a master/slave calendars for a plurality of virtual connections); and a

mechanism for determining when a flow (cell transmission) is added to the source

(virtual connection queue) whether that source was at a first location in the time-based

calendar (current location / T pointer) and then (1) preventing the source from being

placed at a second location that is ahead of a previously–calculated location in the time-

based calendar (via calculating a NST for the VC and scheduling the execution of the

VC at the NST unless the NST has passed in which case it is placed at the current time

+1) and (2) placing the source at a third location that is one of the previously-calculated

location or a next location that is after the previously-calculated location within the time-

based calendar (col. 9, lines 10-64; col. 10, lines 1-65; col. 8, lines 56-67; col. 5, lines 1-

29). It would be obvious to one of ordinary skill in the art that the different calendars

operate independent of one another such that the operation of the time-based calendar

has no relation to the operation of the time-independent calendar. Therefore, it would

be obvious to one of ordinary skill in the art to combine the teachings of APA with the

teachings of NAVEN in order to facilitate a system having a combination of different

scheduling techniques (APA pg. 7, lines 9-12) wherein entries (virtual connections) are

handled without excessive power and/or storage capacity (Naven, col. 3, lines 35-38).

As to claim 5, NAVEN teaches the plurality of sources include a plurality of

queues (virtual connection queues) (col. 9, lines 10-64; col. 10, lines 1-65; col. 8, lines

56-67; col. 5, lines 1-29; See also column 3, line 41 – col. 4, line 3; col. 7, lines 1-26;

col. 11, lines 12-25; col. 14, lines 4-29; col. 6, lines 9-27).

As to claim 6, NAVEN teaches the calculated location includes the location

whereat the queue would have been attached upstream from the location whereat the

queue was last serviced (next scheduled time) (col. 9, lines 10-64; col. 10, lines 1-65;

col. 8, lines 56-67; col. 5, lines 1-29; See also column 3, line 41 – col. 4, line 3; col. 7,

lines 1-26; col. 11, lines 12-25; col. 14, lines 4-29; col. 6, lines 9-27).

As to claim 8, NAVEN teaches the stored information includes time stamps

(scheduled time) (col. 9, lines 10-64; col. 10, lines 1-65; col. 8, lines 56-67; col. 5, lines

1-29; See also column 3, line 41 – col. 4, line 3; col. 7, lines 1-26; col. 11, lines 12-25;

col. 14, lines 4-29; col. 6, lines 9-27).

Response to Arguments

10.   Applicant's arguments with respect to claims 1-3 and 5-13 have been considered

but are moot in view of the new ground(s) of rejection.

Conclusion

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

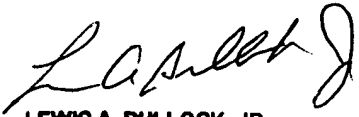shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 29, 2006

LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER